

salaries." Comes the Philadelphia Casualty Company with a "schedule of surgeons' fees"—heaven save the mark!—that is certainly a wonder! And doubtless there are surgeons who have signed the agreement and have undertaken to set and dress fractures of the femur for the magnificent sum of \$15.00 per fracture; or to perform an amputation of the thigh for the princely fee of \$20.00; or remove a leg for the startlingly munificent dole of \$12.00; or give an anesthetic for the very considerable fee of \$1.00. And think of binding yourself to appear in court to testify for \$10.00 *per case*! And a case may last for days and weeks; you may have to spend whole days in court—for \$10.00 for the whole time! Such generosity! Such open-handed consideration for the most humane of the learned professions! Were it not too painfully true that some poor doctors will always be found who will take anything they are given, it would be excruciatingly funny, this list of magnificent fees offered by the Philadelphia Casualty Company. And then consider the Home Life Insurance Company, of New York—and some of the others. One of our members writes that for 15 years he examined for the Home Life, always receiving \$5.00 for an examination. Then for some years they did no business in his vicinity; last June an applicant was sent to him for examination for a \$1,000.00 policy. The examination was made and a bill sent in for \$5.00. A check for \$3.00 was returned. The doctor refused to accept the check for \$3.00 and was then told by the medical director, F. W. Chapin, that a draft for \$3.00 would at any time be paid, but a draft for \$5.00 would not be paid. The company fixes its own fees; take them or leave them or go to the Devil. The New York Life, which has been doing little business on account of this fee question, is trying a new scheme. It is trying to appoint examiners on small salaries, \$6.00, \$9.00, etc., per month, based on the \$3.00 fee schedule. Don't be fooled into accepting this. The company will have to give in, in time, if the best men will have nothing to do with these absurd fees. The Travelers has agreed to pay a minimum \$5.00 fee; be sure and send in your bill for \$5.00 for every examination made for this company; they will pay it though they have not advertised the fact. Demand it and you will get it. Stick the fight out and we surely will win; it cannot be otherwise.

There is nothing, absolutely nothing new "under the sun." Nor is there anything new in the effort made by those who are not sick—but think they are—to "MOVEMENT." get rid of that which they have not. Now comes the Emmanuel "movement" and demands our attention. The only thing original about it is the fact that, at least in its origins, it places itself under medical direction and guidance. If it will so remain, it may accomplish much good, for the clergy have that time to devote to the psychology of individuals who have nothing radically the matter with them, which the average physician has not. And, too, in the

very nature of their work they are dealing with the not-understandable; with mental conditions; with thoughts and beliefs rather than with material livers and spleens and stomachs and hearts and legs and such-like things that are diseased. We have now a number and we doubtless will shortly have very many Emmanuel "movement" healers, just as we have had for years many eddyite "healers." So perhaps, if the field is to be divided, it may be a "movement" in the right direction after all. At any rate it is here and if it can be kept under medical direction or supervision, so much the better.

THE UTILIZATION OF SOCIAL WASTE-PRODUCTS.

By W. A. BRIGGS, M. D., Sacramento.

One of the chief factors in modern industrial progress is the utilization of those by-products which formerly were mostly if not wholly waste. Coal-tar is a noteworthy example of these one-time wastes, which, in so large a measure, constitute not only the wealth of the modern chemist, but in this particular instance, of the manufacturer, artist and therapist, also.

In that evolution of society which we call civilization there are also by-products not only useless but even deleterious, destructive; like those by-products of industry which emit noxious vapors and poison the neighborhood. With social evolution, unfortunately, we have individual devolution.

But sociology has staggered on under its burdens "almost too heavy to be borne" quite unmindful of the experience and advances of her sister sciences. These waste products of civilization, increasing in amount and in noxiousness, continue not merely waste but destructive; they still poison the neighborhood; they still lay heavy and constantly heavier burdens on society.

Can we not take a lesson from industry and convert this serious social liability into a valuable social asset? Certainly we have both need and opportunity.

From a positive opulence of illustration take for instance tuberculosis: Koch and Von Behring, equally eminent authorities, hold, in one respect, diametrically opposite opinions; Koch maintaining that human tuberculosis is practically never, Von Behring that it is practically always, of bovine origin.

The question is of vast significance, economic as well as sanitary. If Koch is right the sanitarian may ignore bovine tuberculosis; if Von Behring is right he must attack it with the utmost vigor. If Koch is right the economist should be up in arms against a useless sacrifice of the bovine race; if Von Behring is right he must acquiesce in its necessity.

An early and definitive solution of this question is earnestly sought by both economist and sanitarian. Such a solution, however, with the means now in the hands of the medical profession and sanctioned by present ethical standards, is impossible. Such a solution requires experimentation on human beings.

Can such experimentation be made to conform to the dictates of an enlightened conscience, public as well as medical? In answering yes I have neither hesitation nor reservation. By a simple amendment of our criminal laws, without jeopardizing their efficiency, without violating the sacred obligations of the medical profession, without outraging the public conscience, these lives, forfeited to the law, may be dedicated to science and humanity.

For this purpose the White Crusaders have in preparation a bill to present to the Legislature instructing the State Board of Health to conduct experiments on those capital convicts, who, in consideration of commutation of sentence to life imprisonment, and, with the full concurrence of the Governor, shall voluntarily petition for such privilege.

What are the possible objections to such a law?

1. It would be in violation of the Constitution of the State in that the proposed experimentation would be a cruel and unusual punishment. To this objection there are several and sufficient answers:

(a) The experimentation proposed is not a punishment and in no way is intended as a punishment. It is something proposed in lieu of punishment which would permit the convicted criminal to expiate his offense in part, by a voluntary and important contribution to the welfare of society. It is an alternative of punishment, a foregoing of the extreme penalty of the law in consideration of valuable service rendered the state; as commutation of sentence is often granted for services rendered in a prison break or in an attack on prison officers. (b) The experimentation in and of itself would not be physically painful even, and if not painful certainly not physically cruel. When exceptionally it would otherwise be painful it would be done under anesthesia. (c) Whether experimentation as an alternative of hanging would be mentally cruel perhaps the convict himself might well be considered the best judge. The proposed law contemplates no compulsion. It leaves the condemned criminal free to make his own choice. If he prefers experimentation in the service of mankind as some slight expiation of his offense, in all candor is not that sentimentalist cruel who insists on his hanging and thus deprives him not only of life but also of this last solace of his conscience? (d) In its results such experimentation would often be negative and when positive, its results would be no more distressing than disease and death always are and not as distressing, not as "cruel" as death on the scaffold—at least if we may trust the practically unanimous verdict of mankind.

2. It would be unconstitutional because commutation, and postponement of sentence and pardon are constitutional prerogatives of the Governor. The proposed law suggests no change in this respect. The convict voluntarily petitions the Governor for the privilege of experimentation. The Governor grants or denies the petition as his judgment directs and, in the former case, postpones execution until the experimentation has been completed to the satisfaction of the State Board of Health,

when he commutes the death sentence to life imprisonment.

3. In the minds of the criminal classes it would diminish the terrors of the law. In convictions for murder in the first degree the jury under the present law, imposes either life imprisonment or the death penalty. If the Governor instead of the jury should exercise this discretionary power, in what way would the terrors of the law be diminished? On the contrary they would rather be increased. For under the proposed law the Governor would commute the death sentence to life imprisonment in selected cases only and then not until the convict had undergone a number, perhaps a large number, of experiments. In other words, the convict for murder in the first degree who escapes the death penalty under the present law gets life imprisonment only, whereas under the proposed law he would get life imprisonment plus experimentation. On the other hand as against these possible but clearly nugatory objections what may be reasonably urged in favor of the proposed law?

1. It would tend to diminish the difficulties of trial by jury. An alternative to capital punishment to be granted in proper cases by a higher authority would diminish or remove in the minds of many the most serious objection to jury service in capital cases and would facilitate agreement in a verdict of murder in the first degree.

2. It would open the door to the further and more serious and systematic study of the criminal classes—their genesis, pathology, psychology, prevention and treatment. Possibly it might finally direct the public mind to a serious and systematic effort toward the prevention of criminals rather than their cure, to the formation of character rather than its reformation.

3. Under scientific supervision it would inevitably lead to valuable discoveries in physiology, pathology, bacteriology and therapeutics. Before us as physicians lies a continent of vast extent, in many respects darker than darkest Africa. Exploration even where seriously undertaken has been superficial and often indirect. The human stomach, for instance, except by inference from comparative physiology, is largely a terra incognita. Pawlow's work on the stomach of the dog is indeed brilliant and illuminating but in how far his conclusions hold good in their application to the human stomach no one knows. A convict saved from the gallows might be more than another Alexis St. Martin—confirming, correcting and completing our knowledge of human digestion and putting man, as far as his stomach is concerned, on a scientific equality with the dog.

Notwithstanding the industry, patience and ingenuity of hundreds of investigators the etiology and therapy of cancer are still largely subjects of controversy. They could be cleared up, at least in a great degree, by human experimentation. In typhoid fever, dysentery—in the infectious diseases generally and particularly in tuberculosis, as I have said, great problems lie before us. Human experimentation is the surest, the most direct and in some

respects, the only way to their solution. What progress might be made if the capital convicts of the world were devoted to science and humanity instead of the scaffold!

Shall a maudlin sentimentalism stand in our way?—a sentimentalism which insists, not only that the convict shall hang, however much he may prefer experimentation, but also that such experimentation shall not be done, however many human lives might be saved thereby; a sentimentalism as depraved as it is consistent.

WHAT IS A PRACTICAL EXAMINATION IN ANATOMY?—(Second Paper).

By DAIN L. TASKER, D. O., Los Angeles.

The day following my receipt of the report of the examination held by the State Board of Medical Examiners in Los Angeles, Dec. 1st, 2nd and 3rd, 1908, I received the following letter from the Secretary:

"Dear Doctor:

"As a matter of comparison I send you the following figures of those who fell below 60 on the various subjects:

Anatomy 16	Pathology 8
Bacteriology 12	Physiology 10
Chemistry 2	Hygiene 7
Histology 13	Gynecology 2
Obstetrics 1	General Diagnosis 5"

This would seem to indicate that the examination in anatomy had been the cause of failure of a relatively large number. Of the 65 applicants who took the examination, 35 attained the general average of 75%.

A study of the grades of the 16 who fell below 60% in anatomy shows that only one of them would have received a license by attaining 60% in that subject. Evidently the fifteen others failed in more than the one subject.

The general average made by the whole number of applicants in anatomy was 65.9%. Twenty-six applicants attained better than 75%, twenty-three between 60 and 75%, while sixteen were below 60%.

In an examination of this kind it is always interesting and helpful to know what sort of questions cause the low percentages. Since an examiner is human long before being a doctor, there can be nothing but a feeling of sorrow over the result of an examination which checks the expectations of a large number. It is very fortunate that the examiner is ignorant of the personality of the producer of each paper, thus leaving his mind free to work on the subject-matter of the answers.

Since I am in favor of our medical law and believe in the ultimate value to medical science in having all applicants examined in fundamentals rather than in the theories and practices of particular cults, I am anxious to conduct my part of the examination in such a fair and impartial manner that failures will be the result of ignorance of the subject rather than the severity of the test.

Both those who favor and those who oppose the

present form of medical law will be interested in anything which will throw any light on the working of the law, hence these remarks.

"Describe the venous circulation of the rectum." The answers to this question averaged 6.4%. This question was chosen because of the anastomosis of the general venous and portal circulations at this point and hence the tendency to piles as a result of portal stagnation. A large number merely mentioned the Superior, Middle and Inferior Hemorrhoidal Plexuses. Here is a sample answer: "The veins of the rectum are the superior and inferior hemorrhoidal. They form a plexus around the organ one below the sphincter and the other above. This plexus continues up the rectum and joins with the mesenteric vein and is emptied into the illiac vein."

The replies to questions 2, 8, 9 and 10 are amply explained by the illustrations. These four questions were worded as follows:

2. Give point of abdominal entrance (vertebral), course and point of division of the abdominal aorta. (Use diagram.)

8. Give relation of the aortic arch to the chest wall. (Use diagram.)

9. Give topography of the spleen. (Use diagram.)

10. Give topography of the kidneys. (Use diagram.)

These diagrams furnished a double test in that it is evident that many of the applicants found it very difficult to get their bearings on the surface of the body by using bony landmarks. These questions called for knowledge of organography essential to clinical examination of the aortic arch, abdominal aorta, spleen and kidneys. Only a few of the diagrams can be presented on account of lack of space but these serve to prove that differences in diagnosis can never be avoided so long as such a vast divergence from the normal constitutes the ideal position of these structures conceived by the various diagnosticians. Physical diagnosis is supposed to be founded on the normal relation of anatomical structures. What value would you attach to an examination of yourself if you knew your physician lacked fundamental knowledge of what constitutes the normal? Shifting aortas, vagrant spleens and wandering kidneys were numerous in this examination.

I chose the articulation of a typical rib (7th) with the spinal column as the third question. The articulation was selected because it is studied in anatomy and physiology under the head of respiration. I indicated a particular rib so that the applicant would need to locate it with respect to particular vertebrae. The average made on this question was 4.7%. Judging by the replies very few of the applicants have a knowledge of costo-vertebral articulations. Here are a few of the misconceptions:

"The rib then runs outward, backward and a little upward to articulate with the transverse process of the upper vertebra."

"Articulates with the body below spinous processes."